

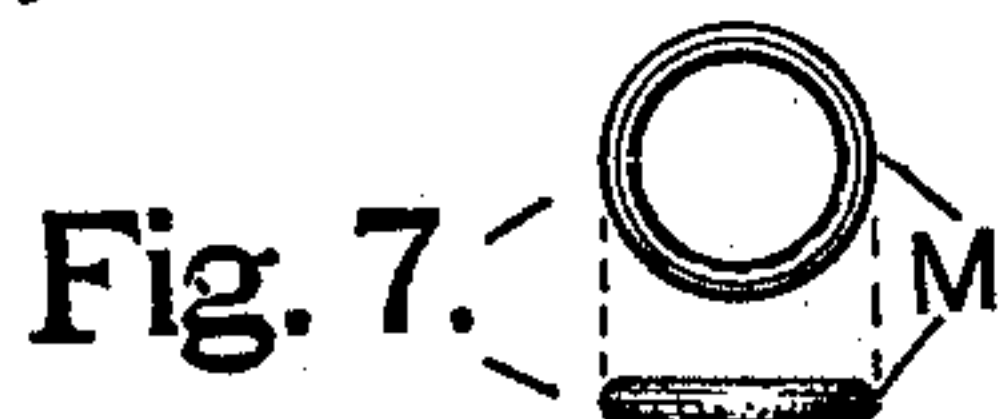
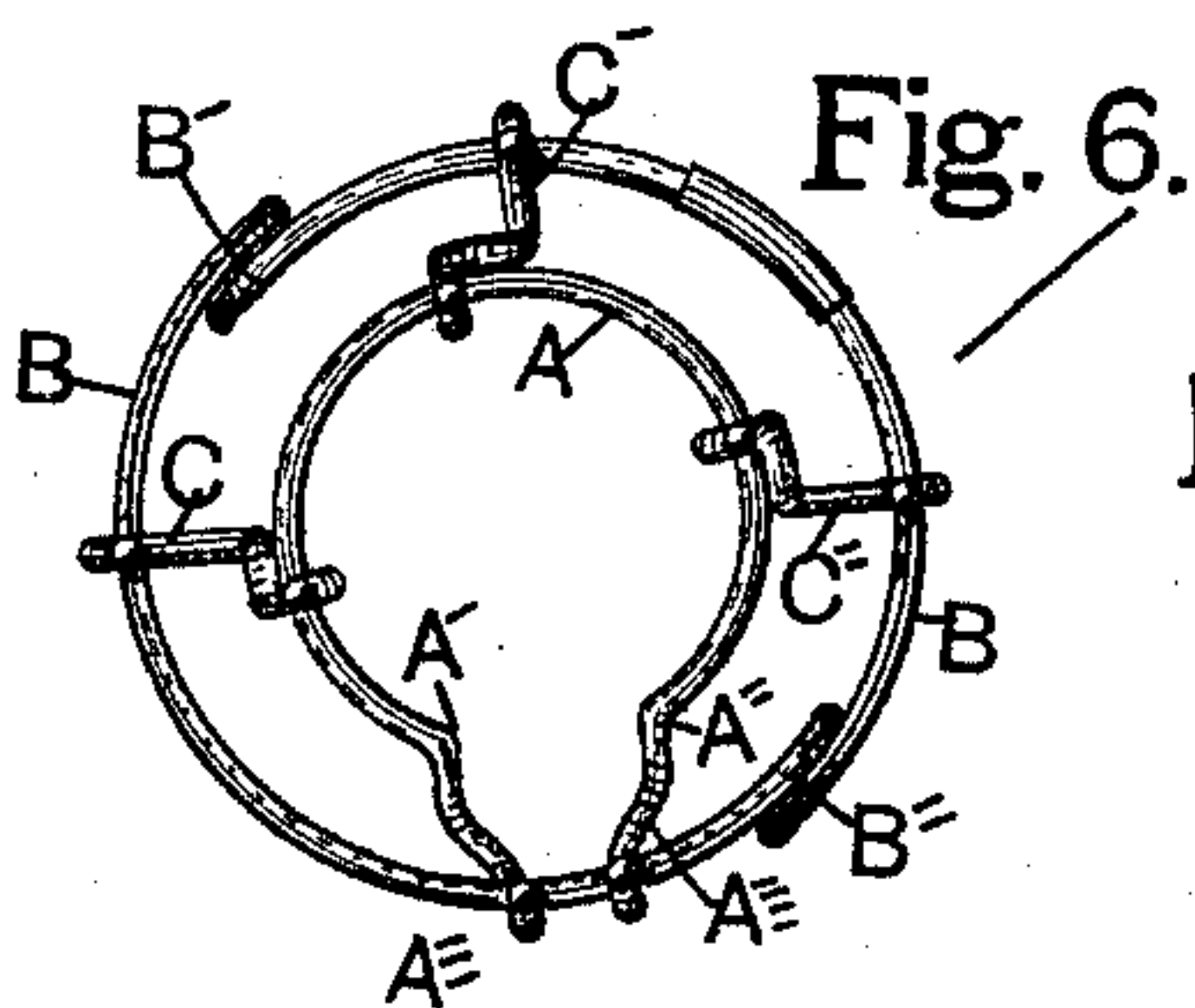
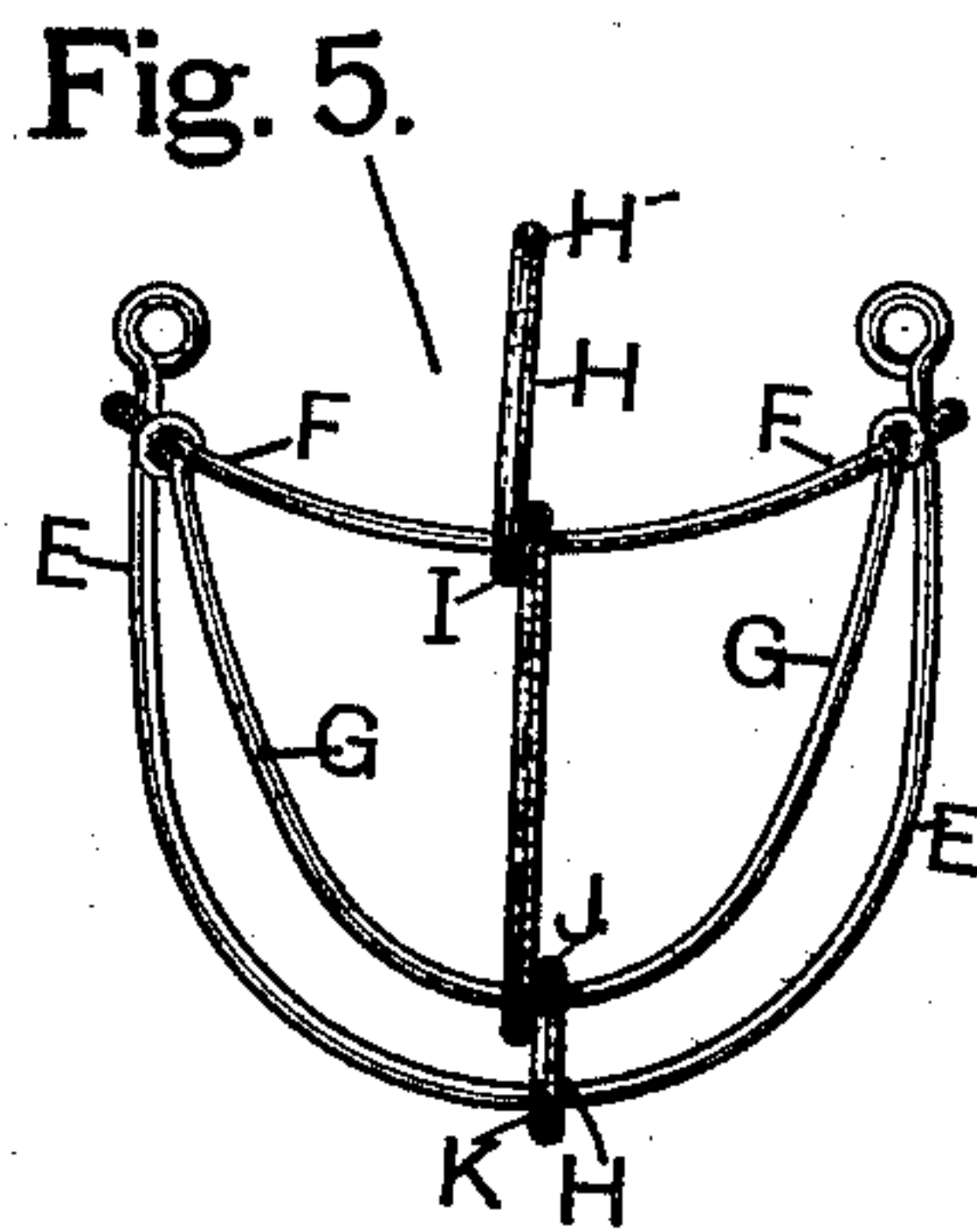
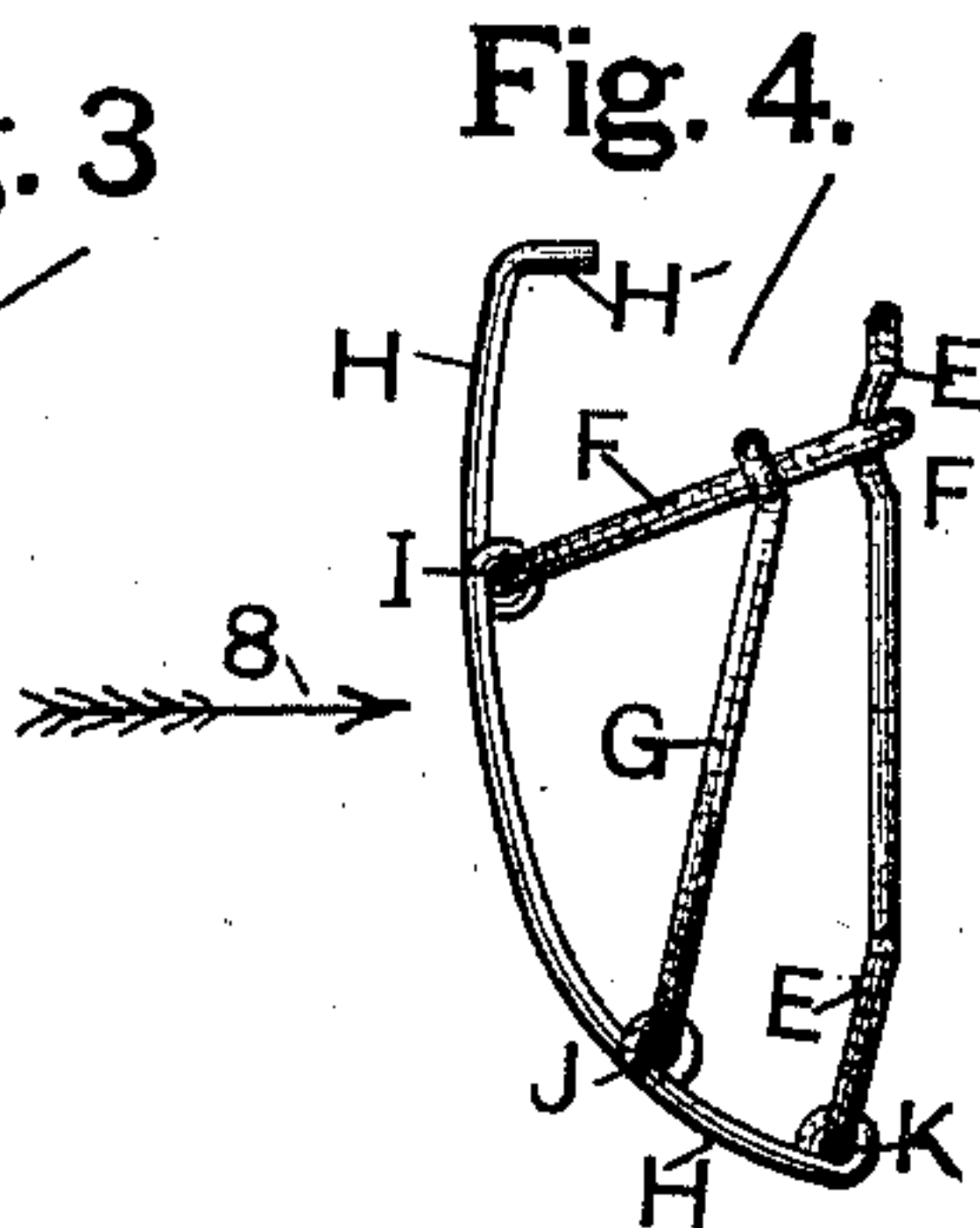
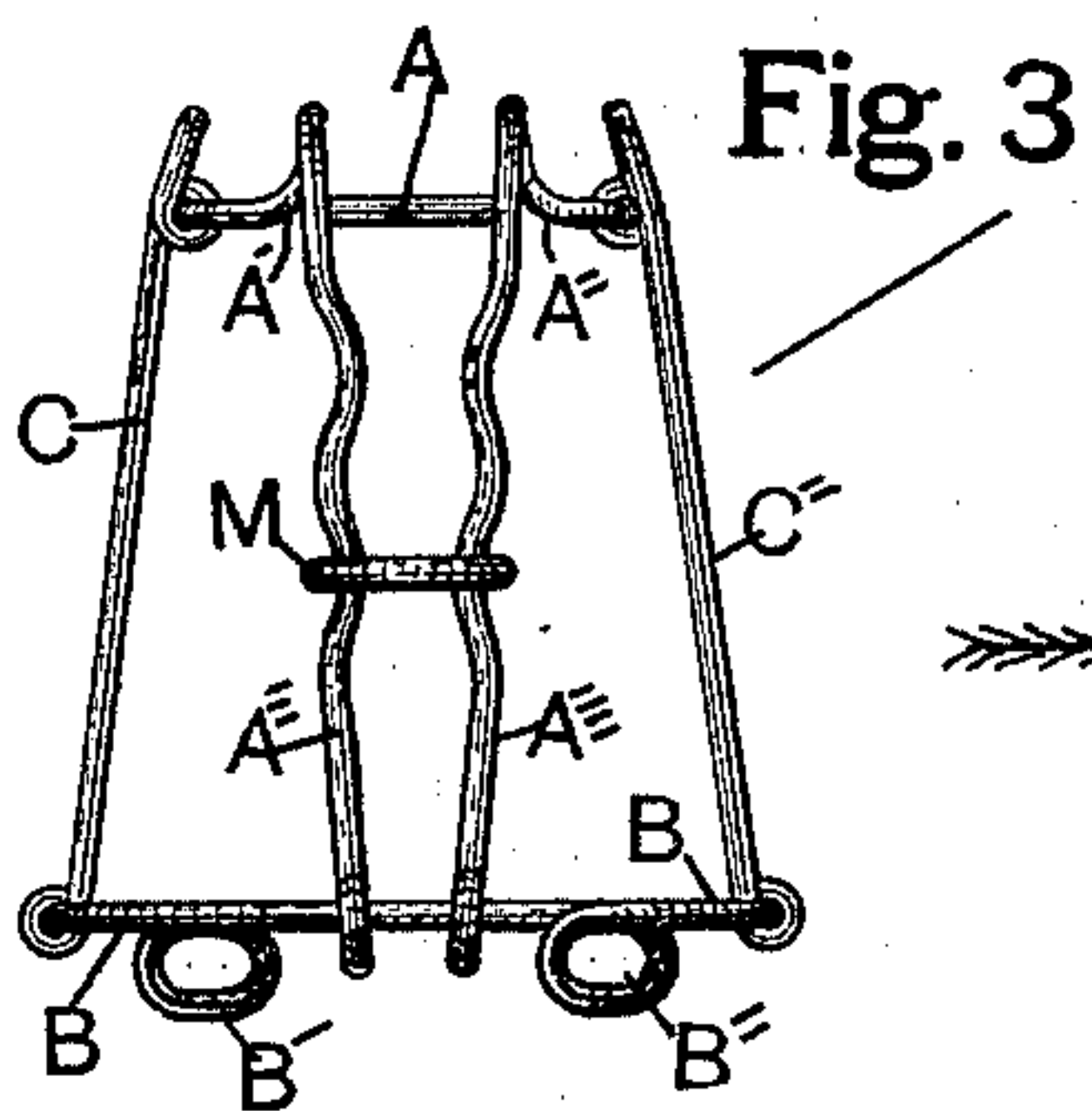
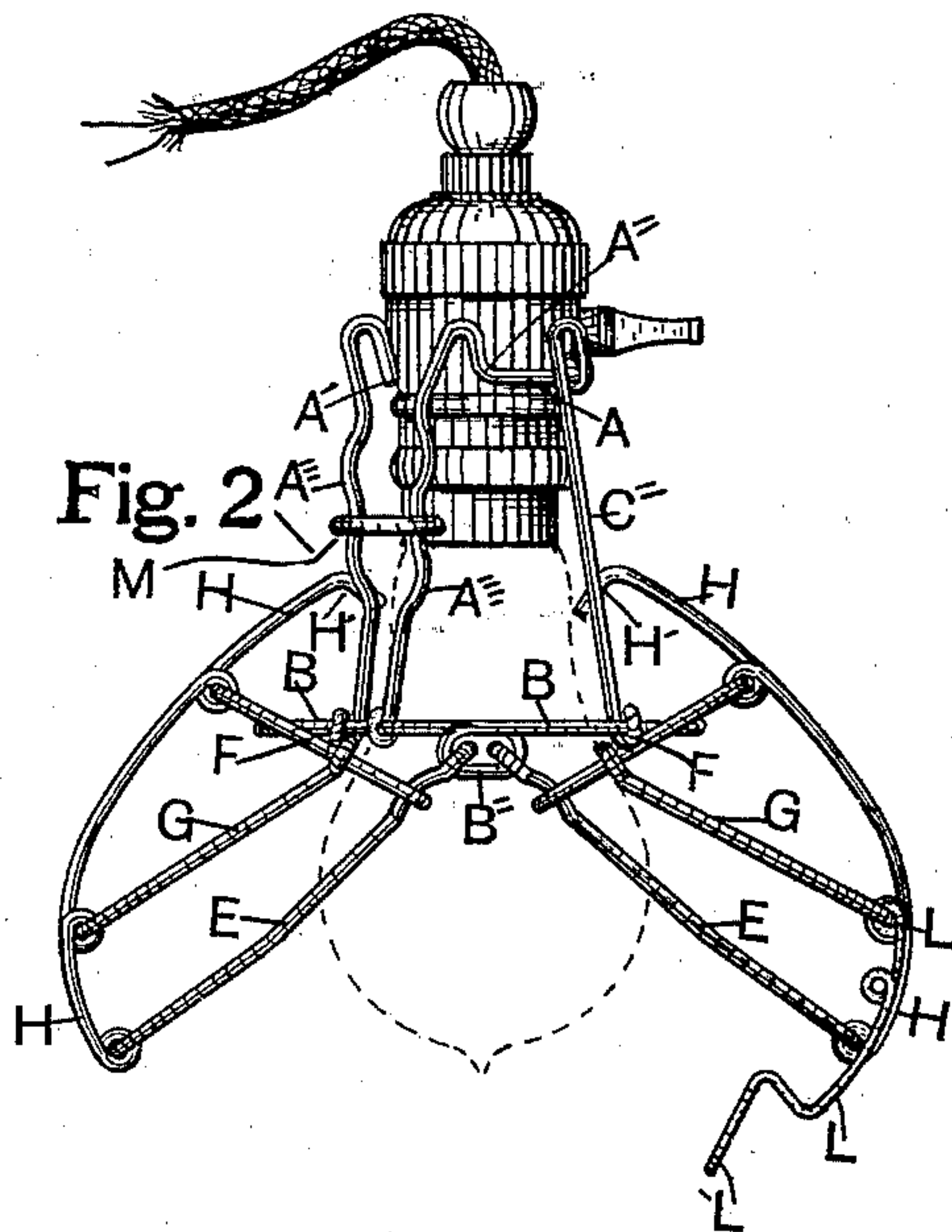
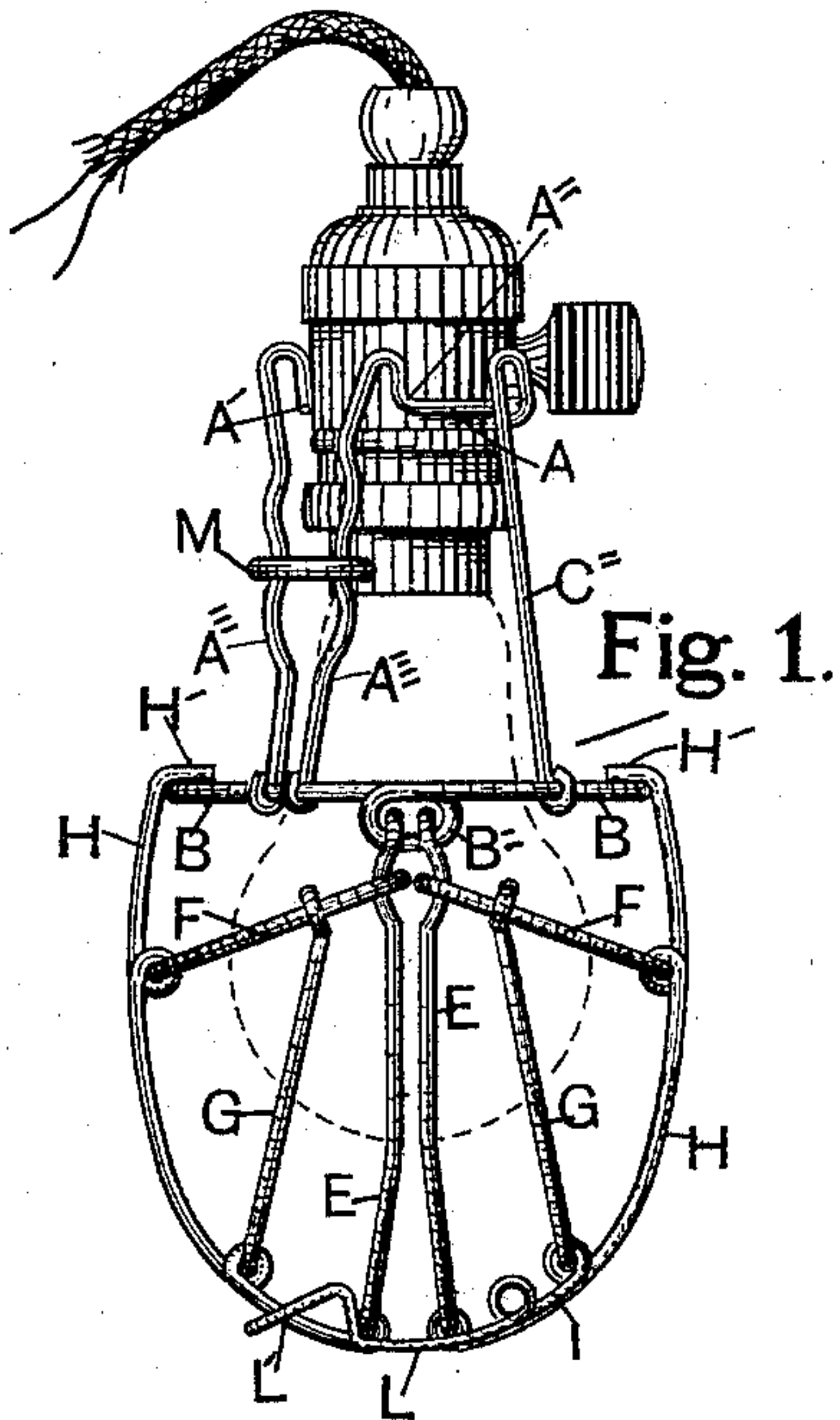
No. 612,999.

Patented Oct. 25, 1898.

H. M. UNDERWOOD.
ELECTRIC LAMP GUARD.

(Application filed Aug. 19, 1897.)

(No Model.)



WITNESSES:

H. H. Hale
Sam. Jaynes

INVENTOR:

Herman M. Underwood
By his atty.
Oscar Snell

UNITED STATES PATENT OFFICE.

HERMAN M. UNDERWOOD, OF CHICAGO, ILLINOIS, ASSIGNOR TO LOUIS M. COLE, OF SAME PLACE.

ELECTRIC-LAMP GUARD.

SPECIFICATION forming part of Letters Patent No. 612,999, dated October 25, 1898.

Application filed August 19, 1897. Serial No. 648,766. (No model.)

To all whom it may concern:

Be it known that I, HERMAN M. UNDERWOOD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Electric-Lamp Guard, of which the following is a specification.

My invention relates to means for protecting the glass bulbs of electric lamps from accidental breakage; and my object is to provide a construction which is not only efficient and durable and adapted to be attached to different designs of lamp-sockets, but may be produced at such a low cost that it is adapted to a wide introduction by being suited to the requirements of general use, the same being described hereinafter and being illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a lamp-guard attached to a lamp-socket and in which is embodied my improvements, the sides thereof being in the closed position. The glass bulb of the lamp in Fig. 1 is shown in broken lines, so as not to confuse, the solid lines representing the wires comprising the guard. Fig. 2 is the same as Fig. 1 with the exception that the guard is shown with the sides in the open position for removing the lamp-bulb. Fig. 3 is an elevation of all the parts, less one, comprising the spring-clasp by means of which the guard is secured to the lamp-socket, the missing part being again referred to hereinafter. Fig. 4 is a side elevation of one of the sides which are pivotally connected to a strong ring, which also serves as the base upon which is mounted the socket spring-clasp. Fig. 5 is a front elevation of one of the sides of the guard, looking in the direction indicated by arrow 8, Fig. 4. Fig. 6 is a plan of the spring socket-clasp shown in Fig. 3 in elevation but with part not shown in Fig. 3 in position but with the ring for closing the arms of the spring socket-clasp removed, so that the connection with the base-ring may be better shown. Fig. 7 shows, respectively, a plan and a side elevation of the ring above referred to for closing the spring-clasp.

Essentially this guard comprises three principal parts, of which, referring to the drawings, the socket spring-clasp is one, and consists of the clasp proper, which in this instance is

made of one piece of spring-wire A, having a portion bent in the form of an open ring from A' to A'', and the end portions thereof first bent in an upward direction at almost a right angle and then bent in a downward direction upon themselves, thus forming two short projections almost parallel with the axial line of the ring, the downwardly-bent portions of the ends of the wire being attached at the ends thereof to the base-ring B and form between this ring and ring A two long arms A''' and A'''. There are three auxiliary arms C, C', and C'', in this instance connecting the resilient ring A with base-ring B, and each of these arms is bent upon itself at the top, so as to project beyond the ring A in the same manner as the projecting portions of arms A''' and A'''' close to ring A, so that the ends of all these projections form an annular row of about the same internal diameter as the inside of ring A, which row is concentric therewith and in a plane a short distance therefrom.

The sides of the guard (shown in Figs. 4 and 5 and in open position in Fig. 2) are alike, each comprising a substantially U-shaped rib E, whose upper ends are formed into eyes which pivotally engage with eyes B' and B'', formed in base-ring B at opposite lower sides, Figs. 3 and 6. Each of the U-shaped ribs E, near the pivotal ends, have securely attached thereto the ends of a smaller U-shaped rib F, and attached to rib F is a still smaller U-shaped rib G, and all of these ribs at the center of length portion are held in proper relative position, as shown, to form a semiglobular basket by means of a connecting-brace H, which has a series of loops I, J, and K, through which the ribs are disposed and firmly secured by pressure on the loops or soldered, which is also the manner of fastening the other stationary connections in this guard. There is a projecting end of connecting-brace H, which has an inward projection H', which latter when both sides are closed is adapted in each side to engage with the base-ring B, Fig. 1, and hold the sides as stops from passing inwardly farther than the longitudinal center of the lamp, any lateral movement or the separation of the sides being prevented by the hook-shaped latch L, of spring-wire,

which is attached at one end to one of the sides, and its hook is adapted to engage with the main rib E of the opposite side, the sides being released by pulling outwardly at the bent end L' of the latch, which releases the hook from rib E.

The two arms A''' and A'''' of spring socket-clasp A have the lower ends secured near together on base-ring B; but they lean outwardly, so as to be much wider apart at the top end, and being formed in a zigzag shape in part of the middle of length and the zigzags being opposed, as shown in Fig. 3, the small ring M when slid upwardly upon the arms causes them to close together at the top, the lateral depressions of the zigzags serving to prevent the rings from slipping backwardly. The sides open to such an extent that the bulb of the lamp may be easily grasped with the hand within the guard when it is necessary for removal or replacement.

In attaching the guard the bulb is usually first removed from the socket and the small locking-ring M pressed down to the base-ring B, so as to permit the spring-clasp ring A to expand, when the bulb end of the socket may be quickly inserted and then secured in position by sliding the locking-ring away from base-ring B along the arms A''' and A''', which closes the spring-clasp ring around the socket, the ring M being held in position by the outer depressions of the opposing zigzags in the arms upon which it is slid.

Ring M is not a necessary feature, since in most instances it may be dispensed with, for the resiliency of the spring-clasp is such that the open ring A and the arms A''' and A'''' therefrom will readily permit the insertion of the socket, and then the ring contracts into the peripheral depressions thereof and securely holds the same in the proper central alignment. Ring M is useful in forcibly closing the open ring A by its action when properly manipulated on arms A''' and A'''' when the socket of the lamp is almost cylindrical or is provided with very shallow peripheral depressions.

It is obvious that after the socket of the lamp has been inserted through the spring-ring A it may also be brought into contact with the annular row of the projecting ends of arms A''', A''', C, C', and C'', and this row at the outer ends being in a different plane from the ring A and of about the same diameter inside and concentric therewith the socket, under the pressure of the ring, will be held against lateral vibration or displacement,

which would not be certain under all conditions of practice should only the spring-ring be in contact with the socket.

It must be understood that I do not confine myself to any particular kind of wire in the manufacture of these guards, since wire of a round, ovate, or square cross-section, except for the difference in cost, would be equally well adapted to use, the word "wire" being used to express, as a general term, any material in any form of cross-section substantially the same as shown in the drawings.

I claim as my invention—

1. In an electric-lamp guard, a base-ring around the lamp, a spring-clasp having one end attached to the base-ring, and the other end adapted to yieldingly receive the bulb-socket of the lamp, wires disposed to form a two-part guard around the main outer portion of the glass bulb of the lamp, and each of such two parts pivotally attached to the base-ring, and adapted to swing outwardly in opposite directions, and to swing inwardly to form the guard, substantially as shown and described.

2. In an electric-lamp guard, a spring-clasp for attaching the guard to a lamp-socket, comprising a base-ring, a wire having its middle portion bent into the form of an open ring, the end portions thereof each being first bent so that a part thereof is disposed at almost a right angle to the plane of the ring portion, or in a line almost parallel with the axial line of the ring, and then, each of the ends of the wire bent upon itself, so as to form a projection in the opposite direction from the first bent portion, the extreme end portions of the wire being secured to the base-ring, in combination with other wires forming similar arms which are bent upon themselves, and the bent ends thereof attached to the open resilient ring, and the other ends attached to the base-ring at intervals around the two rings, the bent projecting portions of the arms forming an annular row of contacts adapted to touch the surface of the lamp-socket in a plane a short distance beyond the resilient ring, and being held in position by the ring, as and for the purpose stated.

In testimony that I claim the foregoing I have hereunto set my hand, this 5th day of August, 1897, in the presence of witnesses.

HERMAN M. UNDERWOOD.

Witnesses:

Z. Z. JACKSON,
WM. R. EVERETT.